

## BIOS Release Notes Form

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<b>Product Name</b>	<b>X11SCH-(LN4)F</b>
<b>Release Version</b>	<b>2.0</b>
<b>Release Date</b>	<b>2/8/2023</b>
<b>Build Date</b>	<b>2/8/2023</b>
<b>Previous Version</b>	<b>1.9</b>
<b>Update Category</b>	<b>Recommended</b>
<b>Dependencies</b>	<b>None</b>
<b>Important Notes</b>	<b>None</b>
<b>Enhancements</b>	<ol style="list-style-type: none"><li>1. Changed BIOS version to 2.0.</li><li>2. Modified Smbios eModule for security update for AMI advisory SA50090.</li><li>3. Modified CmosManager, ACHI, FlashSmi, HddSecurity, NVME, NVRAM, LegacySerialRedirection, OemActivation, Recovery, SecureFlash, TcgStorageSecurity, Smbios for security update for AMI advisory SA50121 to address CVE-2021-33164 (7.5 High).</li><li>4. Modified SmmSmbiosElogInitFuncs.c for security update for AMI advisory SA50127.</li><li>5. Update Reference Code for Intel 2023.1 IPU for INTEL-TA-00717 to address CVE-2022-26837 (7.5 High) and CVE-2022-33894 (7.5 High).</li><li>6. Updated SPS FW to SPS_E3_05.01.04.804 for IPU 2023.1.</li><li>7. Enabled Flash SMI support.</li></ol>

<b>New features</b>	<b>N/A</b>
<b>Fixes</b>	<b>N/A</b>

#### ***Release Notes from Previous Release(s)***

##### **1.9 (9/21/2022)**

1. Updated UefiNetworkStack to label 28 and add patch for AMI SA-50110 security issue.
2. Changed the setup string "SMCI" to "Supermicro", according to the new rule.
3. Updated DBX revocation packages released on [UEFI.org](https://uefi.org) on 08/15/2022 to fix Secure Boot Bypass issue.
4. Integrated IPU 2022.3 Reference Code IPU PV.
5. Updated SPS FW to SPS\_E3\_05.01.04.700.0 for IPU 2022.3.
6. Changed BIOS version to 1.9.
7. Updated 906ED Microcode to 0xF4 for IPU 2022.3.
8. Fixed the failed automation test case "Check Https Boot".
9. Fixed resign fail during signing request.

##### **1.8 (4/27/2022)**

1. Changed BIOS version to 1.8.
2. Synched up 5.13\_1AURF\_RC7.0.58.50\_054(189.B09).
3. Updated Microcode M22906EA\_000000F0(U-0 Stepping) and M22906ED\_000000F0(R-0 Stepping) for INTEL-TA-00615 to address CVE-2022-21166(5.5 High), CVE-2022-21123(6.1 High), CVE-2022-21127(5.6 High), for INTEL-TA-00617 to address CVE-2022-21151(5.3 High), for INTEL-TA-00614 to address CVE-2022-0005(4.9 High).
4. Updated Intel SINIT ACM to 1.10.1. For INTEL-TA-00601 to address CVE-2021-33123 (8.2 High), CVE-2021-33124 (7.5 High) security issues.
5. Updated SPS FW to SPS\_E3\_05.01.04.500 for IPU 2022.1.
6. Added support for IPMI UEFI PXE boot to all LAN ports.  
Fixed the failure of the "FWTS-Live Test."
2. Fixed inability of SUM to get the BIOS setting "Software Guard Extensions (SGX)" via `sum -c getcurrentbioscfg` command.

##### **1.6 (5/25/2021)**

1. Changed the BIOS version to 1.6.
2. Updated SPS firmware to SPS\_E3\_05.01.04.303 for INTEL-TA-00459 Security Advisory to address CVE-2020-24509 (6.7, Medium) IPU 2021.1.
3. Copied the BIOS binary and renamed to adhere to the unique name format.

4. Updated microcodes M02906EB\_000000EA (B-0 Stepping), M22906EC\_000000EA (P-0 Stepping), and M22906ED\_000000EA (R-0 Stepping) for INTEL-SA-00464 Security Advisory to address CVE-2020-24511 (5.6, Medium) and CVE-2020-24512 (2.8, Low) security issues.
5. Updated Intel BIOS ACM & SINIT ACM to 1.8.0 for INTEL-TA-00463 to address CVE-2020-12357 (7.5, High), CVE-2020-8670 (7.5 High), and CVE-2020-12360 (5.6, Medium) security issues.
6. Fixed failure of SUM test 220 due to "PCI AER Support" and "Memory Corrected Error Enabling" setting failing to preserve after flashing BIOS.

#### **1.5 (11/17/2020)**

1. Changed the BIOS version to 1.5.
2. Updated microcodes M22906EA\_000000DE (U-0 Stepping), M02906EB\_000000DD\_000000DE (B-0 Stepping), M22906EC\_000000DE (P-0 Stepping), and M22906ED\_000000DE (R-0 Stepping) for Intel IPU 2020.2.
3. Updated SPS firmware to SPS\_E3\_05.01.04.208.0 for INTEL-TA-00391 Security Advisory to address CVE-2020-8744 (7.2, High) and CVE-2020-8755 (4.6, Medium) security issues.
4. Updated Intel IPU 2020.2 RC 7.0.58.47 for Mehlow Refresh Server Platform Service Version.
5. Removed the FWSTS SMBIOS table.
6. Reduced Rowhammer susceptibility for AMI-SA50084 DDR4 Rowhammer vulnerability to address CVE-2020-10255 (9.0, high) security issue.
7. Patched inability of system to boot via onboard LAN2 after IPMI forces PXE boot when there is an OS behind LSI-3108 RAID card.
8. Added inband flash status event log to IPMI MEL.
9. Added Hotkey Message Enable/Disable function.
10. Enhanced SMCI HDD Security feature.
11. Updated SMBUS MUX setting.
12. Fixed problem of BIOS setup menu showing "Unknown" when plugging in the InnoDisk memory and boot up into BIOS setup menu.
13. Modified Intel Speed Shift Technology default to Disabled.

#### **1.4 (5/26/2020)**

1. Changed the BIOS version to 1.4.
2. Updated microcodes M22906EA\_000000D6 (U-0 Stepping), M02906EB\_000000D6 (B-0 Stepping), M22906EC\_000000D6 (P-0 Stepping), and M22906ED\_000000D6 (R-0 Stepping) for INTEL-SA-00320 Security Advisory to address CVE-2020-0543 (6.5, High) security issue, and microcodes M22906EA\_000000D6 (U-0 Stepping), M02906EB\_000000D6 (B-0 Stepping), M22906EC\_000000D6 (P-0 Stepping), and M22906ED\_000000D6 (R-0 Stepping) for INTEL-SA-00329 Security Advisory to address CVE-2020-0548 (2.8, Low) and CVE-2020-0549 (6.5, Medium) security issues.
3. Updated Intel RSTe RAID Option ROM/UEFI Driver to 6.3.0.1005.
4. Implemented IPU 2020.1 update to SPS firmware to SPS\_E3\_05.01.04.113.0.
5. Enhanced the OEM FID feature to support UUID.
6. Disabled OPROM of internal graphics.
7. Added SMCI HDD Security feature.
8. Set the OverclockingLock flag to enabled by default for SGX test.
9. Added support for InnoDisk memory.
10. Fixed inability to change the serial port IO resource.

11. Fixed failure of Secure Erase password and problem of BIOS returning "EFI\_Device\_Error" with SED: Seagate ST1000NX0353.

### **1.3 (2/20/2020)**

1. Changed the BIOS version to 1.3.
2. Updated RC to Mehlow Refresh PV version 7.0.58.44.
3. Updated Microcodes M22906EA\_000000D2 (U-0 Stepping), M02906EB\_000000D2 (B-0 Stepping), M22906EC\_000000D2 (P-0 Stepping), and M22906ED\_000000D2 (R-0 Stepping) for INTEL-SA-00320 Security Advisory to address CVE-2020-0543 (6.5, High) security issue and for INTEL-SA-00329 Security Advisory to address CVE-2020-0548 (2.8, Low) and CVE-2020-0549 (6.5, Medium) security issue.
4. Updated BiosAcm to 1.7.1 (20191213) and SinitAcm to 1.7.8 (20191220).
5. Added solution for problem of systems with LPDDR3 2133 MT/s DRAMs failing during boot.
6. Corrected the "DeepSx Power Policies" item string.
7. Displayed the "SGX Launch Control Policy" items in the BIOS setup menu.
8. Added SMC HDD Security feature.
9. Updated flag for skipping password prompt window.
10. Fixed inability of ME to enter recovery mode.
11. Fixed inability of BIOS to load default when plugging in M.2.
12. Added support for erasing NVMe Opal device (like Samsung 970 EVO model MZ-V7E250) without setting admin password.

### **1.2 (11/22/2019)**

1. Changed BIOS version to 1.2.
2. Disabled the MCTP for buggy BMC workaround.
3. Updated Microcode M22906EA\_000000CA (U-0 Stepping), M02906EB\_000000CA (B-0 Stepping), and M22906EC\_000000CA (P-0 Stepping) for INTEL-SA-00219 Security Advisory to address CVE-2019-0117 (6.0, Medium) security issue and for INTEL-SA-00220 Security Advisory to address CVE-2019-0123 (8.2, High) security issue.
4. Updated Microcode M22906ED\_000000CA (R-0 Stepping) for INTEL-SA-00219 Security Advisory to address CVE-2019-0117 (6.0, Medium) security issue, Microcode M22906ED\_000000CA (R-0 Stepping) for INTEL-SA-00220 Security Advisory to address CVE-2019-0123 (8.2, High) security issue, and Microcode M22906ED\_000000CA (R-0 Stepping) for INTEL-SA-00270 Security Advisory to address CVE-2019-11135 (6.5, Medium) security issue.
5. Updated SPS firmware to SPS\_E3\_05.01.03.094.0.
6. Updated the Intel PMC firmware to 300.2.11.1022.
7. Updated the AMI TSE to 2.20.1276.
8. Updated RC to Mehlow Refresh PV version 7.0.58.43 for INTEL-SA-00260 Security Advisory to address CVE-2019-0154 (6.5, Medium) security issue.
9. Updated SINIT ACM to 1.7.4 for INTEL-SA-00240 to address CVE-2019-0151 (7.5 High) and CVE-2019-0152 (8.2 High), INTEL-SA-00220 to address CVE-2018-0123 (8.2, High) and CVE-2019-0124 (8.2, High), and INTEL-SA-00164 to address CVE-2019-0184 (6.0, Medium).
10. Updated NVRAM NVMe HddSecurity SmmConfidentialMemModule and TcgStorageSecurity to INTEL-SA-00254 request version for INTEL-SA-00254 Security Advisory to address CVE-2019-0185 (6.0, Medium) security issue.
11. Removed "Hard Drive Security Frozen" setup item from SATA and RSTe Configuration page.
12. Added support for BMC AUX revision displaying.
13. Fixed problem of CECC being recorded in event log when METW is "60".

14. Fixed when use JPEG1 to disabled onboard VGA, and then boot into the operating system the onboard VGA device still exists.

15. Fixed inability to identify duplicate boot options with more than one of the same M.2 AHCI interface devices.

### **1.1 (8/20/2019)**

1. Updated BIOS revision to 1.1.

2. Updated RC to Mehlow Refresh PV version 7.0.58.42.

3. Updated Coffee Lake-S R-0 stepping CPU microcode M22906ED\_000000BE and Coffee Lake-S P-0 stepping CPU microcode M22906EC\_000000BE.

4. Updated SPS firmware to SPS\_E3\_05.01.03.078.0.

5. Set memory uncorrectable error to always be recorded, regardless of METW and MECI.

6. Updated "Http Boot One Time" to "HTTP Boot One Time".

7. Added "SATA Frozen" function.

8. Updated SMC OOB module to 1.01.07, added Redfish/SUM Secure Boot feature, and updated OOB for secure boot and reserve Key.

9. Implemented dynamic change for Secure Boot Mode default value.

10. Fixed inability of BIOS to get SMBIOS type 39 power supply FRU data.

11. Fixed problem of key details showing "Security Violation" after loading Factory secure boot keys.

12. Fixed problem of two boot devices occurring in the boot order when installing UEFI CentOS.

13. Fixed failure of OPRM control item if CSM is disabled.

14. Fixed inability of system to find any network adapters and problem of the installation with vSphere aborting.

15. Fixed inability to enable TPM in the BIOS setup menu when plugging in TPM device and then disabling it.

16. Fixed problem of some items being adjusted when user adjusts dual boot order in BIOS setup.

17. Fixed inability to identify duplicated NVMe boot option with more than one of the same NVMe drives on an add-on card.

### **1.0b (5/24/2019)**

1. Updated BIOS version to 1.0b.

2. Updated RC to version 7.0.58.41.

3. Updated Coffee Lake-S R-0 stepping CPU microcode M22906ED\_000000B4.

4. Updated MCU (906EA-U0 + 906EB-B0 + 906EC-P0) for INTEL-SA-00233 Security Advisory to address CVE-2018-12126, CVE-2018-12127, CVE-2018-12130 and CVE-2019-11091 security issue.

5. Updated SPS 5.1.03.62 for INTEL-SA-00213 Security Advisory to address CVE-2019-0089, CVE-2019-0090, CVE-2019-0086, CVE-2019-0091, CVE-2019-0092, CVE-2019-0093, CVE-2019-0094, CVE-2019-0096, CVE-2019-0097, CVE-2019-0098, and CVE-2019-0099 security issue.

6. Updated Intel RSTe RAID Option ROM/UEFI Driver to 6.1.0.1017.

7. Updated SMC OOB module to support SMC LSI OOB Module.

8. Added Early Video messages when BIOS is in recovery mode.

9. Added "ACPI T-States" setup item.

10. Enhanced JPEG1 function for running SUM with JPEG1 2-3.

11. Enhanced "NVMe FW Source" function.

12. Added "Sata Frozen" function.

13. Added support for RFC4122 UUID format feature so that RFC4122 encoding from build time is produced by IPMICFG 1.29 tool or newer version.

14. Displayed "AERON" and "MCEON" string during POST when "PCI AER Support" or "Memory Corrected Error" is enabled.
15. Hid "ECC Support" item.
16. Set the default of "Memory Corrected Error Enabling" to Disabled.
17. Updated the Intel BIOS ACM version to 1.5.0 and SINIT ACM to 1.6.0.
18. Displayed Intel Graphics item and set the default value to Disabled.
19. Changed Package C State Limit default value to Auto and removed the C10 option.
20. Added "MCEON" and "AERON" POST string for SOL console when items are enabled.
21. Added support for Linux built-in utility efibootmgr.
22. Fixed problem of the system hanging in CP: 0xF4 when the system recovery occurs in BIOS with TPM module.
23. Updated BIOS Setup Menu for the item "Always Turbo Mode" in Advanced/CPU Configuration page.
24. Updated IPv4 and IPv6 setup items string.
25. Hid Serial Port 2 Attribute item if there is no real BMC COM.
26. Updated "Restore Optimized Defaults" string for Mehlow Server template.
27. Added "Driver Health" setup item.
28. Added Driver Health Warning message.
29. Updated to avoid inability to flash OA License Key randomly.
30. Renamed "AC Loss Policy Depend on" back to "Restore on AC Power Loss".
31. Enhanced the solution for the error/warning message from dmidecode after a modification by AMIDE.
32. Displayed the CPU's PL1 and PL2 items of Advanced -> CPU Configuration page in the BIOS setup menu.
33. Updated USB and Fastboot module.
34. Set default setting Power Limit 2 to 150W when 8 Core CPU is used in the system.
35. Set OptionRom and boot mode select to EFI while CSM is disabled.
36. Changed UEFI LAN Boot option name format for SUM requirement.
37. Added RFC3021 solution for the network stack (/32 subnet mask support).
38. Displayed the setup item "BME DMA Mitigation" in the Advanced -> PCIe/PCI/PnP Configuration page.
39. Fixed issue of serial port UID not following COM port order after BIOS update.
40. Fixed problem of InBand receiving incorrect OEM FID size.
41. Modified UEFI network description to IPv4/IPv6 to follow Industry Standard.
42. Removed processor version "Type" string for Mehlow Server template.
43. Added Disabled option for "Onboard Video Option ROM" setup item.
44. Fixed issue of onboard video having an output when JPG1 is disabled.
45. Updated "Redirection After BIOS POST" string for Mehlow Server template.
46. Fixed problem of BMC VGA status being enabled in SMBIOS Type 41 when JPG1 is disabled (In 2-3).
47. Fixed lack of onboard VGA information in Type 40.
48. Fixed issue of system using a constant 7-8% of the CPU when an interruption occurs.
49. Fixed issue of DIMM location showing "i\$No DIMM infoj" in Event Logs when ECC error occurs.
50. Fixed issue of ""[1;31;40m" being shown on ] POST screen when EFI driver is "unhealthy".
51. Fixed problem of the value of Power Limit 2 displaying as 0 in setup menu when setup menu is set to 0 (AUTO).
52. Fixed inability of Intel Optane Memory M.2 to be detected.
53. Fixed issue of system may or may not hanging up when LAN1 is disabled.
54. Fixed issue of system recovery hanging up when TPM is installed.
55. Fixed issue of 4KN HDDs reporting 1TB when it should be 8TB.